



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,235	08/24/2001	William Joseph Armstrong	ROC920010252US1	3405

7590

07/27/2006

WOOD, HERRON & EVANS, L.L.P.
2700 Carew Tower
441 Vine St.
Cincinnati, OH 45202

EXAMINER

TANG, KENNETH

ART UNIT	PAPER NUMBER
----------	--------------

2195

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/939,235	Applicant(s) ARMSTRONG ET AL.	
	Examiner Kenneth Tang	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the Appeal Brief filed on 5/15/06. Prosecution has been reopened and new grounds of rejections have been made.
2. Claims 1-27 and 31-33 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. The claimed invention is directed to non-statutory subject matter. Specifically, in claims 31 and 32, the invention relating to a signal bearing medium/transmission-type medium is not statutory.
4. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. In *re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a

determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687). See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

The Federal Circuit held that the mere manipulations of abstract ideas are not patentable. *Schrader*, 22 F.3d at 292-93, 30 USPQ2d at 1457-58. If a claimed process manipulates only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the claim is not being applied to appropriate subject matter. *Schrader*, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. The Federal Circuit also recognizes that the fact that a nonstatutory method is carried out on a programmed computer does not make the process claim statutory. *Grams*, 888 F.2d at 841, 12 USPQ2d at 1829 (claim 16 ruled nonstatutory even though it was a computer-implemented process).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-27, and 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Gosior et al. (hereinafter Gosior) (US 2003/0093655 A1).

6. As to claim 1, Gosior teaches a method for sharing resources on a multithreaded CPU capable of executing a plurality of threads (*see Abstract*), the method comprising:

deferring a yield of a first thread executing on the multithreaded CPU while waiting for at least a second thread executing on the multithreaded CPU to become ready to yield (*page 4, [0038]-[0040]*);

yielding the first thread in response to at least the second thread becoming ready to yield (*page 4, [0038]-[0040]*).

7. As to claim 2, Gosior teaches monitoring the plurality of threads for an occurrence (*page 4, [0039]*).

8. As to claim 3, Gosior teaches wherein the occurrence is a spin lock or an idle loop (*wait loop*) (*page 4, [0038]-[0040]*).

9. As to claim 4, Gosior teaches making a yield call in response to the occurrence (*page 4, [0038]-[0040]*).

Art Unit: 2195

10. As to claim 5, Gosior teaches marking storage of the first thread in response to receiving the yield call to indicate that the first thread is ready to yield (*page 4, [0038]-[0040]*).

11. As to claim 6, Gosior teaches spinning the first thread while waiting for at least the second thread to become ready to yield (*page 4, [0038]-[0040]*).

12. As to claim 7, Gosior teaches abandoning the yield call in response to detecting an event (*page 4, [0038]-[0040]*).

13. As to claim 8, Gosior teaches wherein the event is a time-out or an external interrupt (*page 4, [0038]*).

14. As to claim 9, Gosior teaches returning control of the first thread to an operating system in response to detecting the event (*page 4, [0038]-[0040]*).

15. As to claim 10, Gosior teaches saving the state (in a register) of the operating system in response to detecting that at least the second thread is ready to yield (*page 4, [0038]-[0040]*).

16. As to claim 11, Gosior teaches idling at least the first and second threads within a common virtual space (*multithread architecture with shared memory*) (*[0028]*) in response to at least the second thread being ready to yield (*page 4, [0038]-[0040]*).

Art Unit: 2195

17. As to claim 12, Gosior teaches idling all threads executing on the multithreaded CPU within the common virtual space (*multithread architecture with shared memory*) ([0028]).

18. As to claim 13, Gosior teaches a method for yielding within a multithreaded CPU data processing system, wherein each of a plurality of threads executing on a multithreaded CPU must execute within a common virtual space (*multithread architecture with shared memory*) ([0028]), the method comprising:

deferring a yield of a thread while at least a subset (*dependent threads*) (see Abstract, [0001]) of the plurality of threads (page 4, [0038]-[0040]); and

abandoning (*target thread is stopped*) the yield of the thread in response to detecting an event while the yield is deferred (page 4, [0038]-[0040]).

19. As to claim 14, Gosior teaches yielding the thread after the subset of threads yield, if the subset of threads yield prior to the event (*dependent threads*) (see Abstract, [0001]).

As to claim 15, Gosior teaches interrupts wherein the event is selected from among a group consisting of a time-out, an I/O interrupt and a combination thereof ([0025], [0038]-[0040]).

20. As to claims 16-27, they are rejected for the same reasons as stated in the rejection of claims 1-12.

21. As to claim 31, Gosior teaches a program product, comprising:

(a) a program for yielding a thread within a multithreaded CPU data processing system, wherein each of a plurality of threads that execute on a multithreaded CPU must execute within a common virtual space (*multithread architecture with shared memory*) ([0028]), wherein the program is configured to defer a yield of a first thread of the plurality while waiting for at least a second thread of the plurality to become ready to yield; and further to initiate the yield of the first thread in response to at least the second thread becoming ready to yield (*page 4, [0038]-[0040]*); and

(b) a signal bearing medium bearing the first program ([0010]).

22. As to claim 32, Gosior teaches wherein the signal bearing medium includes at least one of a recordable medium and a transmission-type medium ([0010]).

23. As to claim 33, Gosior teaches wherein the program is configured to ensure that the plurality of threads execute within a common virtual space (*multithread architecture with shared memory*) ([0028]).

Response to Arguments

24. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejections.

Art Unit: 2195

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kt

7/21/06


SUPERVISOR
2100